

Remarks

These remarks should be entered after final because they place the application in condition for allowance and/or because they place the application in better condition for appeal.

Reconsideration of this Application is respectfully requested.

Claims 19-38 are pending in the application, with claims 19, 26, and 34 being the independent claims. Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding restrictions and rejections and that they be withdrawn.

The Examiner is asked to restart the shortened statutory period (SSP) for the final Office Action. The Examiner's statement within the Restriction section and the Rejection section are inconsistent, as is the Office Action Summary sheet. In the Office Action Summary sheet, the Examiner only indicates that claims 19-33 are pending, and that claims 19-25 were rejected and 26-33 were restricted out. However, claims 19-38 are pending, not 19-33. The Examiner then states in the Restriction section that claims 26-38 are properly restrictable (see page 2, first paragraph), and then states only claims 26-33 were restricted out (see page 3, last paragraph). However, in the Rejection section, the Examiner does not address claims 34-38. Thus, claims 34-38 appear to have been inadvertently unexamined and/or left out of the Restriction. Accordingly, Applicant asks that if claims 34-38 are to be restricted out and/or a rejection is made on claims 34-38, a new Office Action be issued with the SSP restarted in order for the Applicant to have ample time to consider and respond.

Restriction by Original Presentation

The Examiner has restricted out claims 26-33 as allegedly being directed to a non-elected invention based on claims 19-26 having been constructively elected by original presentation for prosecution on their merits under 37 C.F.R. 1.142(b) and M.P.E.P. Section 821.03. The Examiner's reasoning for doing this was:

Newly submitted claims 26-38 are directed to an invention that is independent and distinct from the invention originally claimed for the following reasons: applicant has previously chosen to direct prosecution towards method claims 19-25, offering detailed argument based upon sensitivity advantages of the nozzle shapes. The added claims, while similar to previously submitted (and previously cancelled) claims, diverge from that focus in such a substantial manner as to cause significant burden to examination. (emphasis added)

Applicant disagrees with this statement. The emphasized statement above is absolutely incorrect.

New claims 26-32 are SUBSTANTIALLY IDENTICAL COPIES of previously pending claims 8-14 filed in the Amendment and Reply of February 28, 2005, which were finally rejected in the final Office Action of April 13, 2005. For example, instead of "flow restrictors **placed** in the reference channel," (emphasis added) found in previously pending claim 8, claim 26 recites "flow restrictors **located** in the reference channel," (emphasis added). Thus, this change does not place a "significant burden" on the Examiner.

Similarly, new claims 34-37 are SUBSTANTIALLY IDENTICAL COPIES of previously pending claims 15-18 filed in the Amendment and Reply of February 28, 2005, which were finally rejected in the final Office Action of April 13, 2005. For example, instead of "**positioning** nozzles having elongated orifices," (emphasis added) found in previously pending claim 15, claim 34 recites "**using** nozzles having elongated orifices," (emphasis added). Thus, this change does not place a "significant burden" on the Examiner.

Previously cancelled claims 8-18 were re-presented in the pending application as new claims 27-32 and 34-37 specifically to allow them to be considered during a

possible appeal process because they had already been finally rejected. Having been examined and finally rejected, there is absolutely NO BURDEN on the Examiner for continued examination of these claims. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the Restriction by Original Presentation and bring claims 27-32 and 34-37 back into this case, at least for appeal purposes.

Claims 33 and 38 are similar to claim 25, which was examined in the final Office Action of December 13, 2005. Thus, these claims should also place no additional burden on the Examiner. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the Restriction by Original Presentation and bring claims 33 and 38 back into this case, at least for appeal purposes.

Also, through examination of claims 19-24, the Examiner has implied that claims 1-18 and 19-24 are not patentably distinct, which implies they are not properly restrictable. See M.P.E.P. Section 706.07h, which states in relevant part:

Applicants cannot file an RCE to obtain continued examination on the basis of claims that are independent and distinct from the claims previously claimed and examined as a matter of right (i.e., applicant cannot switch inventions). See 37 CFR 1.145. Any newly submitted claims that are directed to an invention that is independent and distinct from the invention previously claimed will be withdrawn from consideration and not entered.

Thus, by examining the newly submitted claims 19-24, the Examiner implied claims 19-24 were not independent and distinct from claims 1-18, which implies that claims 19-24 are not independent and distinct from claims 27-32 and 34-37. Accordingly, for at least this additional reason, Applicant respectfully requests that the Examiner reconsider and withdraw the Restriction by Original Presentation and bring claims 27-32 and 34-37 back into this case, at least for appeal purposes.

Rejections under 35 U.S.C. § 103(a)

Claims 19-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,953,388 to Barada (“Barada”) in view of U.S. Patent No. 4,604,892 to Carraras (“Carraras”), or in the alternative, in view of U.S. Patent No. 3,948,082 to

Zumbach (“Zumbach”). Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Barada in view of Carraras in further view of U.S. Patent No. 5,317,898 to Nemeth (“Nemeth”), or in the alternative, in view Barada in view Zumbach in further view of Nemeth. Applicant traverses these rejections.

Claim 19 recites at least:

A method, comprising:

...

scanning the first probe over a reference surface to produce successive reference values, such that a size of an opening of the elongated nozzle allows for an entire area of the reference surface adjacent the first probe during the scanning to be measured by substantially eliminating low sensitivity areas;

scanning the second probe over a measured surface to produce successive measured values, such that a size of an opening of the elongated nozzle allows for an entire area of the measured surface adjacent the second probe during the scanning to be measured by substantially eliminating low sensitivity areas; and

...

Barada teaches a differential air gauge sensor, but lacks any teaching of using an elongated probe.

Zumbach teaches a thickness measuring device coupled to a differential air gauge sensor (See Fig. 7). It appears that the teaching of an elongated probe (Fig. 4) is only directed to thickness measuring using inductance measuring with coils. Thus, it appears the elongated probe is unrelated to any distance measuring done using the differential air gauge, which measures a distance only to determine where to position the thickness measuring device.

Carraras teaches of a single probe used to measure volume or thickness of an object on a substrate, where an end of the probe is elongated to conform to the shape of the object on the substrate being measured. The thickness of a material deposited on a substrate is measured by determining a difference between first and second measurements taken at different times, i.e., before and after deposit of a material on substrate.

Neither Zumbach or Carraras make up for the deficiencies in Barada. Moreover, neither Zumbach nor Carraras are used to teach or suggest at least “a size of an opening

of the elongated nozzle allows for an entire area of the reference surface adjacent the first probe during the scanning to be measured by substantially eliminating low sensitivity areas," as recited in claim 19.

For example, this feature is described in an exemplary portion of the instant specification as follows:

FIG. 6 shows an end view and characteristics of a circular gas gauge proximity sensor 600. One issue with proximity sensor 600 is that the sensitivity footprint, depending on the nozzle size and standoff, is often a torus like shape. Based on the torus shape, sensor 600 can have a region 602 of lesser sensitivity (see area 606 on graph 608) right under the orifice 604. This can be because side restriction regions 603 have a separation S. Sensed area 603 can be a "scanned" footprint based on several successive readings. Ideally, it is desirable to eliminate this lower sensitivity region 602 in the central portion of air gauge 600.

One way to achieve this is to provide a dramatically smaller orifice, but this can result in a smaller sensing area and less standoff. Additionally, when used as a scanning device, the topography passing near the center of the device is not considered as important as the topography passing near the upper or lower shell. Additionally, it is often desirable to compare topography results between sensor types (optical, capacitive etc). The unusual sensitivity footprint of the standard air gauge complicates this process.

In regards to reducing sensitivity, an exemplary portion of the instant specification states:

Using the elongated nozzle having the long and thin orifice substantially eliminates any low sensitivity areas found in conventional sensors (see FIG. 6, elements 602 and 606) partially because side restriction regions overlap (see FIG. 4, elements 356 and 360).

However, neither of the alleged elongated probes in Zumbach and Carraras teach or suggest this feature.

In contrast, Carraras is directed to making sure the probe matches a shape of a deposited resist, where it states:

The jets shown at 5, 6 and 7 according to their shapes allow, because they are homothetic with respect to the shapes of the resistances while remaining inscribed therewithin, all the variations of thickness of the deposit to be integrated for the flow of the air currents is directly related to the flow resistance per unit of length. Thus the jet 5 will have a square section if deposit 2 has a square section, but a circular section in this case also gives good results if the circle is inscribed within the square formed by the resistance. Jets 6 and 7 each have rectangular section, for the shape of resistances 3 and 4 are rectangular.

Zumbach fails to state anything regarding what characteristics are associated with its probe 18'.

Nemeth is not used by the Examiner to teach or suggest at least these features, nor does it remedy the deficiencies of Barada, Zumbach, and Carraras, taken alone or in combination.

Therefore, for at least the reasons stated above, none of the applied patents teach or suggest, either singly or in an allegedly obvious combination, at least "a size of an opening of the elongated nozzle allows for an entire area of the reference surface adjacent the first probe during the scanning to be measured by substantially eliminating low sensitivity areas," as recited in claim 19. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections. Also, at least based on their dependency to claim 19, claims 20-25 should be found allowable.

Claims 26-38

As discussed above, Claims 26-32 and 34-37 are substantially identical to claims 8-18 pending in the Amendment and Reply of February 28, 2005. These claims should be found allowable based at least on the Arguments above and the Arguments made in the February 28, 2005 Amendment and Reply.

Claims 33 and 38 have substantially the same scope as claim 25 examined above. These claims should be found allowable at least because, based on the arguments above and the arguments made in the February 28, 2005 Amendment and Reply, the claims from which they respectively depend, claims 26 and 34, should be found allowable.

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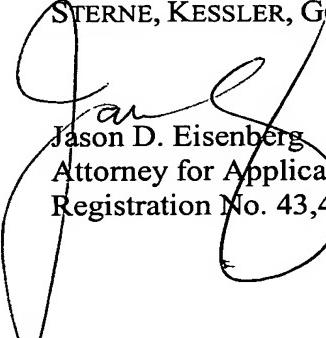
Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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